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**Notice of Allowability**

Application No.

10/691,767

Examiner

Daniel J. Cavallari

Applicant(s)

MUELLER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/15/2006.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Translation of JP2000294068A.

### **DETAILED ACTION**

The examiner acknowledges a submission of the amendment filed on 8/15/2006.

The amendments to the specification, drawings, and claims 1, 3-5, 7, 8, 10, 12, & 13 are accepted.

### ***Response to Arguments***

The previously made objection to the drawings has been withdrawn in view of the replacement drawing submitted on 8/15/2006.

Applicant's arguments, see Pages 8-9, filed 8/15/2006, with respect to the claim objections of claims 1-14 have been fully considered and are persuasive. The claim objections of claims 1-14 have been withdrawn.

The previously made 112 second paragraph rejection of claims 1, 3, & 5 have been withdrawn in view of the amendments.

***Allowable Subject Matter***

Claims 1-14 are allowed.

The following is an examiner's statement of reasons for allowance:

In regard to Claims 1 & 10

Shirakawa et al. (US 2004/0113268) teach parallel switch to reduce heat (See Paragraph 69). Morita et al. (JP 200094068) teach a cryogenic switching arrangement in which parallel switches are used to reduce heat intrusion to the cryogenic portion of the circuit however prior art fails to teach a first bus at a lower temperature with cross-sectional area, a second bus at a higher temperature and the first bus having parallel leads connected at one end and a second set of parallel leads connected to the second bus wherein the first and second leads are selectably connected and wherein the sum of the cross-sectional area of n-1 of the parallel first leads is less than the cross-sectional area of the first bus and disconnection between the first and second leads comprises the creation of a physical gap between the leads preventing both current and conductive heat flow across the gap.

In regard to Claims 12 & 13

Shirakawa et al. (US 2004/0113268) teach parallel switch to reduce heat (See Paragraph 69). Morita et al. (JP 2000294068A) teach a cryogenic switching arrangement in which parallel switches are used to reduce heat intrusion to the cryogenic portion of the circuit however prior art fails to teach a first bus at a lower

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temperature with cross-sectional area, a second bus at a higher temperature and the first bus having parallel leads connected at one end and a second set of parallel leads connected to the second bus wherein the first and second leads are selectably connected and wherein the sum of the cross-sectional area of connected first leads being less than the cross-sectional area of the first bus and disconnection between the first and second leads comprises the creation of a physical gap between the leads preventing both current and conductive heat flow across the gap and the sum of the current flow area of the connecting interface connecting the first and second leads ranging from 0 up to the cross-sectional area of the first bus.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

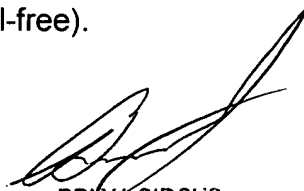
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

October 23, 2006



BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
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